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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,076	03/31/2004	Tetsuya Sakai	325772035700	5274

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EXAMINER

GRAINGER, QUANA MASHELL

ART UNIT	PAPER NUMBER
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2852

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/813,076

Applicant(s)

SAKAI ET AL

Examiner

Quana M. Grainger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 is/are allowed.
- 6) ☒ Claim(s) 1,5,6,8 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 2-4,7,9,10 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5-6, 8, and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (2003/0049039A1). Suzuki teaches a detection device used in an image forming apparatus, comprising: a light-emitting element 13c which emits light towards a toner pattern formed on an image carrier; a first light-receiving element 13f which detects the light reflected from the toner pattern; a second light-receiving element 13g which detects the light reflected from the toner pattern in a fashion different from the first light-receiving element; and a control unit which calculates the amount of toner of the toner pattern based on the output values from the first and second light-receiving elements as well as the position of the toner pattern based on the output value from the first light-receiving element (figure 1, 18; paragraph[0063-0077]). The control unit calculates the amount of toner of the toner pattern based on the difference between the detection value output by the first light-receiving element and the detection value output by the second light-receiving element. The amount of light emission from said light-emitting

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element 13c is adjusted based on the toner amounts calculated based on the amount of reflected lights detected by the first and second light-receiving elements.

Suzuki teaches an image forming apparatus comprising: an intermediate transfer unit 51; a plurality of image forming units (1a-1d) disposed to the intermediate transfer unit; a plurality of transfer elements which sequentially transfer toner patterns formed by each of said image forming units onto the intermediate transfer unit; a light-emitting element which emits light towards the toner patterns formed on the intermediate transfer unit 51; a plurality of light-receiving elements each of which detects the reflected light from the toner patterns; and a control unit which calculates the toner amount of each toner pattern based on the output values from said plurality of light-receiving elements as well as the position of each toner pattern based on the output value from one of the light-receiving elements (figure 18).

3. Claims 1 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanbayashi (cited by applicant, US 4,796,065). Kanbayashi teaches a detection device used in an image forming apparatus, comprising: a light-emitting element 32 which emits light towards a toner pattern formed on an image carrier; a first light-receiving element 33 which detects the light reflected from the toner pattern; a second light-receiving element 34 which detects the light reflected from the toner pattern in a fashion different from the first light-receiving element; and a control unit which calculates the amount of toner of the toner pattern based on the output values from the first and second light-receiving elements as well as the position of the toner pattern based on the output value from the first light-receiving element (figure 1; column 4, lines 54-66; column 5, lines 2-48). The control unit calculates the amount of toner of the toner pattern based

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on the difference between the detection value output by the first light-receiving element and the detection value output by the second light-receiving element (column 6, lines 9-26). The amount of light emission from said light-emitting element is adjusted based on the toner amounts calculated based on the amount of reflected lights detected by the first and second light-receiving elements (column 2, lines 48-63).

Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nishikawa et al. teaches pertinent prior art.

Allowable Subject Matter

5. Claims 2-4, 7, 9-11, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 15 is allowed.

Response to Arguments

6. Applicant's arguments filed 11/22/2005 have been fully considered but they are not persuasive. Applicant argues that the applied art does not teach determining the position of a toner pattern. The rejected claims do not include this limitation and thus it does not matter. The rejected claims recite that the amount of toner is calculated based on the first and second light receiving elements and the position of the toner pattern. The rejected claims do not recite that the position of the toner is calculated; claim 3 recites this calculation.

The first light receiving element in the applied art detects the position of the toner pattern since it detects light reflected from the pattern. Thus, the position of the toner pattern has to be known or is detected ^{4.6,} ~~as~~ when the amount of light reflected changes.

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The claims remain rejected as discussed above.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quana M. Grainger whose telephone number is 571-272-2135.

The examiner can normally be reached on 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 571-272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Quana M Grainger
Primary Examiner
Art Unit 2852

QG